

**DETAILED DESCRIPTION OF THE
AVIATION-ONLY SYSTEM IMPROVEMENTS**

APPENDIX 2-E**DETAILED DESCRIPTION OF THE
AVIATION-ONLY SYSTEM IMPROVEMENTS****Aviation-Only Improvement Options**

For the year 2020, a total of over 116 million total new passengers (enplanements and deplanements) are assumed as the representative intercity travel demand. Hypothetical capacity improvements over and above the 2020 No Project Alternative required to serve this travel demand entirely within the aviation mode are summarized by individual airport and region, in Table 2-E-1. A regional summary of improvements is appropriate for this analysis because 1) it is recognized that passengers may choose between one or more airports within their region based on a range of factors (i.e., convenience, cost, and airline preference) and 2) which regional airport a potential high-speed train passenger would likely use is not relevant to the impact analysis. As shown in Table 2-E-1 and illustrated in Figure 2-E-1, a net total (accounting for future improvements assumed as part of the No Project Alternative) of 185 new gates and 10 new runways are required to accommodate the representative intercity travel demand entirely within the aviation system.

Table 2-E-1
Net Modal Alternative Airport Improvements—Year 2020
(Single Mode)

Regional Airports	Representative Intercity Demand¹ (millions)	Additional Gates²	Additional Runways²
Bay Area to Merced			
Oakland, San Jose, and San Francisco	37.8	57	3
Northern Central Valley			
Sacramento and Stockton	12	17	1
Southern Central Valley			
Bakersfield, Fresno, Merced, and Modesto	8.3	16	1
Los Angeles			
Burbank, Long Beach, Los Angeles International, Long Beach, Orange County, Ontario Airport	41.9	65	3
San Diego			
San Diego and Carlsbad/Palomar	16.4	30	2
Totals	116.4	185	10
Notes: ¹ Assumes all representative intercity demand uses aviation system and excludes long-distance commute trips. ² Net improvements are calculated as follows. Total representative demand minus 2020 funded and operational improvements for California trips (Table 2.4-2 from Chapter 2, <i>Alternatives</i>). Source: Parsons Brinckerhoff, November 2002.			

Figure 2-E-1
Net Modal Alternative Airport Improvements—Year 2020
(Aviation-Only)



Assessment of Aviation-Only Improvement Option Feasibility and Practicality

It is not practical or feasible to assume that improvements to the aviation system could accommodate all of the representative intercity travel demand, as described below.

- Air travel would not be competitive for trips shorter than 150 miles in length. For these trips, the auto trip is the most competitive mode in terms of convenience and journey time. For a typical 150 mile trip within the study area it is estimated that the total journey time by private auto would be about 3 hrs (assuming an average speed of 50 miles per hour) compared to about 4 to 5 hrs by air (assuming up to 1 to 2 hrs for access/egress to/from the airport and point-of-origin, 1 hr pre-board check-in arrival time, 1 hr deplaning/baggage claim time, and a 1 hr flight time). In addition, trips with the private auto are not limited pre-schedule arrival and departure times, and are more reliable and less affected by weather delays.
- The magnitude of improvements required to accommodate the representative intercity demand is clearly not practical when considering current utilization levels and the severe land use, environmental, and other capacity constraints that limit airport expansion projects.